



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,833	01/29/2004	Nicola Benvenuti	16220ROUS01U	5639
34645	7590	02/05/2009		
Anderson Gorecki & Manaras, LLP Attn: John C. Gorecki P.O BOX 553 CARLISLE, MA 01741			EXAMINER WONG, BLANCHE	
			ART UNIT 2419	PAPER NUMBER
			NOTIFICATION DATE 02/05/2009	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

john@gorecki.us  
jgorecki@smmalaw.com  
officeadmin@smmalaw.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/767,833	<b>Applicant(s)</b> BENVENUTI ET AL.	
	<b>Examiner</b> Blanche Wong	<b>Art Unit</b> 2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5,7,9,11-17 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,9,11-17 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-5,7,9,11-17,20 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Objections*

2. Claim 2 is objected to because of the following informalities:

With regard to claim 2, Examiner suggests replacing "A/Z" in line 2 with "AZ" because Applicant states that "the specification uses these terms interchangeably", Amendment dated November 17, 2008, p.7, lines 21-22, and further the slash can be easily mistaken as a mathematic division. (Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).)

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 1-5,7,9,11-17,20** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2419

With regard to claim 1, it is unclear what is meant by "distributing connection information associated with flows on the protection cycle to all nodes on the protection cycle" in line 5. Whether there is traffic on the protection cycle even before the failure? Or whether the protection cycle is only a backup used when there is a failure?

With regard to claim 1, the term "a failure on the protection cycle" in line 6 is indefinite because it is unclear what failed. Whether the protection cycle failed? If so, what does it mean to have a protection cycle failure? Whether it is the failure of a node on the protection cycle? Whether it is the failure of a link on the protection cycle, wherein the protection cycle comprises of links between nodes on the protection cycle? Or both node failures and link failures?

With regard to claim 1, it is unclear what is "flows" in "the protection transmission unit allocation for the flows" in lines 8-9, or whether the transmission of the transmission units is the flows.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2419

6. **Claims 1,4,5,7,11** are rejected under 35 U.S.C. 102(b) as being anticipated by Ellinas et al. (U.S. Pat No. 6,331,905).

With regard to claim 1, Ellinas discloses  
distributing **(predetermined and set up at each node)** connection information **(routing information of the fibers to redirect the data)** associated with flows **(redirected data)** on the protection cycle **(protection cycle)** to all nodes on the protection cycle **(at each node)** (“**The protection cycles are made up of the protection fibers and protection interconnection fibers and are predetermined and set up prior to the activation of the network. No centralized decision process ... must be used in the network to redirect the data in case of a node failure ....**”, col. 7, lines 43-48);

upon occurrence of a failure of a node or link on the protection cycle **(a failure is detected)** (“**The switch is monitored by a monitoring system within the node and if a failure is detected, the data is switched to selected protection fibers within the switch**”, col. 5, lines 21-23) (**See A/so fiber cuts, col. 2, line 17 and equipment failures, col. 2, line 34**), determining, by each node on the protection cycle **(the individual switching nodes)**, which flows **(protection switching)** are affected by the failure on the protection cycle (“**The protection switching is performed at the individual switching nodes without an instruction from a central manager, and thus the APS process is distributed and autonomous**”, col. 5, lines 26-29);

Art Unit: 2419

determining, by each node on the protection cycle **(the individual switching nodes)**, the protection transmission unit allocation **(protection switching)** for the flows affected by the failure **("The protection switching is performed at the individual switching nodes without an instruction from a central manager, and thus the APS process is distributed and autonomous", col. 5, lines 26-29)** from the connection information associated with the affected flows **(redirected data)** **("The protection cycles are made up of the protection fibers and protection interconnection fibers and are predetermined and set up prior to the activation of the network. No centralized decision process ... must be used in the network to redirect the data in case of a node failure ....", col. 7, lines 43-48).**

With regard to claim 2, Ellinas further discloses A represents the location where the flow enters the protection cycle **(links 1,19 are arrows in)** and Z represents the location where the flow leaves the protection cycle **(links 3,17 are arrows out)** **(In Fig. 1 B, link 85 includes working fiber pair 1,3, and protection fiber pair 17,19, col. 6, lines 24-25).**

With regard to claim 4, Ellinas further discloses the protection cycle is a ring **(Fig. 1A).**

With regard to claim 5, Ellinas further discloses determining the protection transmission unit allocation is performed only after receipt of notice of the failure on the

Art Unit: 2419

ring **(so that) (a network node router which supports p-cycles, col. 4, lines 24-25 and "the networking routing protocol advertises the link failure so that the network can be re-routed without the failed link", col. 4, lines 18-20).**

With regard to claim 7, Ellinas further discloses optical transport technology **(fiber pairs, col. 6, lines 24-25) (See A/so fiber optic, col. 1, line 50 and WDM, col. 1, line 54)** and determining transmission times for the affected flows **(on the order of milliseconds, col. 5, line 25).**

With regard to claim 11, Ellinas further discloses the protection cycle is a ring **(solid and dotted lines and the circular nature of Fig. 1A)** wherein the nodes are nodes on the ring **(network nodes in Fig. 1A)**, and wherein the connections are connections that are provisioned through at least two nodes on the ring **("A network contains two or more nodes which are selectively connected together ...", col. 5, lines 1-2).**

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2419

8. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ellinas in view of Anderson et al. (U.S. Pat No. 6,535,481).

With regard to claim 3, the combination of Ellinas discloses the method of claim 2. However, Ellinas does not explicitly show connection ID information.

Anderson further discloses connection ID information (**p-cycle label stacks, col. 4, line 38**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine connection ID information as taught in Anderson, with Ellinas, to provide for connection identification to increase resource allocation efficiency.

9. **Claims 9,16,17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellinas in view of Afferton et al. (U.S. Pat No. 6,278,689).

With regard to claims 9,16,17, Ellinas discloses the method of claim 1. Ellinas further discloses logical restoration path (**redundancy, col. 5, line 19 and protection switching, col. 5, line 26**). However, Ellinas fails to explicitly show a mesh network.

Afferton discloses a mesh network (**cross-connect mesh network, col. 1, line 64**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine a mesh network as taught by Afferton, with Ellinas, in order to prevent double ring failure which is generally not restorable via the ring itself, giving rise



Art Unit: 2419

to a service outage which is costly from both a revenue and customer satisfaction perspective. Afferton, col. 1, line 46-48.

10. **Claims 12-15,20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellinas in view of Lu (U.S. Pat No. 5,412,652).

With regard to claim 12, Ellinas discloses the method of claim 1. However, Ellinas fails to explicitly show a SONET based network, where the protection cycle is a SONET ring, and wherein the protection transmission unit allocation is a time slot on the ring.

Lu discloses a SONET based network (**SONET**) (**BLSR type SONET ring in Fig. 5, col. 8, line 25**), wherein the protection cycle is a SONET ring (**SONET ring**) (**BLSR type SONET ring in Fig. 5, col. 8, line 25**), and wherein the protection transmission unit allocation is a time slot (**time slot**) (**TSI, col. 12, line 11**) on the ring (**Fig. 5**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a SONET based network, where the protection cycle is a SONET ring, and wherein the protection transmission unit allocation is a time slot on the ring, as taught in Lu, with Ellinas, to implement a SONET network.

With regard to claim 13, Ellinas discloses the method of claim 1. However, Ellinas fails to explicitly show the protection cycle has a working path and a protection

Art Unit: 2419

path, wherein connections are transmitted in time slots on the working path, and wherein the protection transmission units are time slots on the protection path.

Lu discloses the protection cycle **(CW/CCW)** has a working path and a protection path **(CW/CCW protection channels 7-12 for working channels 1-6, col. 8, lines 44-49)**, wherein connections are transmitted in time slots on the working path, and wherein the protection transmission units are time slots **(time slots)** on the protection path **(time slot) (TSI, col. 12, line 11) (it is inherent that the time slots are on the respective paths)**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include the protection cycle has a working path and a protection path, wherein connections are transmitted in time slots on the working path, and wherein the protection transmission units are time slots on the protection path, as taught in Lu, with Ellinas, to implement a SONET network.

With regard to claim 14, the combination of Ellinas and Lu discloses the method of claim 13. Ellinas further discloses two working paths and two protection paths **(working fiber pair 1,3 and protection fiber pair 17,19, col. 6, lines 24-25)**.

Lu further discloses time slot interchange **(TSI, col. 12, line 11)** is permitted on the working path **(working channels)**, and wherein time slots **(TSI, col. 12, line 11)** are allocated on the protection path **(protection channels) (CW/CCW protection channels 7-12 for working channels 1-6, col. 8, lines 44-49)**.

Art Unit: 2419

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include time slot interchange that is permitted on the working path, and wherein time slots are allocated on the protection path, as taught in Lu, with Ellinas and Anderson, to implement a SONET network with a p-cycle.

With regard to claim 15, the combination of Ellinas and Lu discloses the method of claim 13.

Lu further discloses extra traffic (**extra traffic**) may be carried on the protection path (“... **the protection channels to carry extra traffic ... through the use of the SONET ring table ... only a minimum number of protection channels is necessary to restore the normal traffic**”, **col. 12, line 68 – col. 13, line 8**), and time slot interchange (**TSI, col. 12, line 11**) is permitted for extra traffic on the protection path.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include time slot interchange that is permitted for extra traffic on the protection path, as taught in Lu, with Ellinas, to implement a SONET network with a p-cycle.

With regard to claim 20, Ellinas discloses the method of claim 1. However, Ellinas fails to explicitly show connection size information.

Lu disclose connection size information (**normal traffic, extra traffic**) (“... **the protection channels to carry extra traffic ... through the use of the SONET ring**

Art Unit: 2419

**table ... only a minimum number of protection channels is necessary to restore the normal traffic”, col. 12, line 68 – col. 13, line 8).**

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include connection size information as taught in Lu, with Ellinas, to implement a SONET network with a p-cycle.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Blanche Wong/  
Examiner, Art Unit 2419  
January 23, 2009

/Salman Ahmed/  
Examiner, Art Unit 2419